REMARKS

Claims 1, 3-8 and 10-34 are all the claims pending in the application. Claims 1, 3-8, 10-

15 and 19-34 have been **allowed**, while claims 16-18 remain rejected under 35 U.S.C. § 102.

35 U.S.C. § 102

Claims 16-18 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by

Gruhl et al. (US Pub. No. 2002/0004379). Applicants traverse the rejections based on the

following comments.

Claim 16 recites:

> A method of control signal transmission for supporting a closed-loop
> capacity scheduling method used in a system comprising a mobile station capable
> of transmitting a plurality of data flows to a base station, any one of a plurality of
> priority levels being assigned to each of the data flows, wherein
> the mobile station transmits to the base station a provisional scheduling
> information which is given by dividing the data flows into groups on the basis of
> the priority levels of each of the data flows and by producing the provisional
> scheduling information based on a buffer accumulation amount of the data flows
> of each group,
> the base station determines an assigned capacity for the data flow on the
> basis of the provisional scheduling information,
> the base station notifies to the mobile station the assigned capacity and
> information designating the data flow, and
> the mobile station transmits the data flow on the basis of the received
> assigned capacity.

Applicants submit that the technique disclosed in Gruhl is fundamentally linked to

Downlink Packet Scheduling. On the other hand, the claims 16-18 relates to Uplink Packet

Scheduling. Thus, Gruhl is fundamentally different from the claimed invention. As the

Examiner may be aware, in order to anticipate, a reference must teach "all of the limitations

arranged or combined in the <u>same way</u> as recited in the claim." *Net MoneyIn v. Verisign*, 88

USPQ2d 1751, 1758-1759 (Fed. Cir., 2008).

For example, Gruhl discloses providing different types of services and data to end users

(i.e., downloading) and managing dynamic load patterns in a communication cell (i.e., base

station) as mobile users move between different regions (paragraphs 5 and 25). That is, data is

transmitted from the base station to the mobile users. In particular, a call is accepted into a

communication cell if certain QoS requirements can be met by the communication cell

(paragraphs 25 and 64). Thus, when sufficient downlink capacity is available from the

communication cell, the communication cell may accept a call request from a mobile user

(paragraph 64). Thus, Gruhl clearly discloses <u>Downlink</u> Packet Scheduling and managing a

<u>downlink capacity</u>.

On the other hand, claim 16 recites "a system comprising a mobile station capable of

transmitting a plurality of data flows to a base station," where "the mobile station transmits the

data flow on the basis of the received assigned capacity." Thus, claim 16 clearly relates to

<u>Uplink</u> Packet Scheduling and managing an <u>uplink capacity</u>.

In a case of Downlink Packet Scheduling, a base station has <u>downlink buffers</u> for all of

mobile stations with which the base station has a connection. Referring to the downlink buffers

of the base station, the base station carries out <u>packet scheduling</u> by grasping the situation of

each of the mobile stations (Figs. 5 and 9 of Gruhl). As disclosed in Gruhl, the transmission of

the communication cell (i.e., the base station) is controlled.

In a different case of Uplink Packet Scheduling, each of the mobile stations has an <u>uplink</u> <u>buffer</u> for the mobile station itself. The base station controls transmission of each of the mobile stations in the manner provided by the invention according to claim 16 of this application. In order for the base station to control the transmission of each of the mobile stations, the base station receives "a provisional scheduling information" which the mobile station transmits to the base station and which is described in claim 16 of this application. Specifically, claim 16 recites that "<u>the mobile station transmits</u> **to the base station** <u>a provisional scheduling information</u> which is given by dividing the data flows into groups on the basis of the priority levels of each of the data flows and by producing the provisional scheduling information based on a buffer accumulation amount of the data flows of each group." The "<u>base station [then] determines an</u> <u>assigned capacity for the data flow on the basis of the provisional scheduling information</u>."

Gruhl does not disclose that <u>the mobile station transmits</u> **to the base station** <u>a provisional</u> <u>scheduling information</u>. Instead, Gruhl discloses that a Connection Admission Controller (CAC) module receives traffic characteristics along with the QoS requirements of all existing connections <u>from the serving base station</u> (paragraph 74).

The invention according to claim 16 of this application achieves Uplink Packet Scheduling when the mobile station has a plurality of data flows and is capable of transmitting a plurality of data flows to a base station. The invention according to claim 16 of this application also achieves, in the Uplink Packet Scheduling, transmission control of each of the data flows and optimization of the control signal necessary for transmission control of each of the data flows. The optimization of the control signal necessary for transmission control of each of the

data flows is a problem <u>specific to Uplink Packet Scheduling and is not necessary in Downlink</u> <u>Packet Scheduling</u>. Thus, a person of ordinary skill in the art would readily understand that Gruhl, which is linked to Downlink Packet Scheduling, does not disclose the features of claim 16 which specifically address the optimization of the control signal necessary for transmission control of each of the data flows specific to Uplink Packet Scheduling. That is, because Gruhl is related to Downlink Packet Scheduling and not to Uplink Packet Scheduling, Gruhl does not and would not have a reason to address the problems associated with Downlink Packet Scheduling, which are addressed by the features recited in claim 16. Thus, for this additional reason, it should be clear that Gruhl does not disclose each and every feature of claim 16. Instead, Gruhl discloses a Call Admission Control (Claim 1 and Fig. 8) in a mobile telecommunications network for managing the downlink capacity.

In view of the above, Gruhl fails to disclose each and every feature of claim 16, and thus, claim 16 is patentable for at least this reason.

Additionally, claims 17 and 18 are patentable at least by virtue of their dependency on claim 16. Reconsideration of these claims in view of the above comments is respectfully requested.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. § 1.116   Attorney Docket No.: Q94479
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                              Respectfully submitted,

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